

W6IFE Newsletter

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PLEASE NOTE--NO MEETING ON THURSDAY JULY 4TH--Come to the Orange County Craig

Regional Park on Saturday 6 July 10:00- 14:00 for a picnic 10 Ghz WBFM testing, listen to the Santiago beacon, junk transfer from car to car. Dick WB6DNX will get there early to hold down a spot or large tree for us. Local talk in 145.14 simplex or 145.14- 110.9 pl. Map enclosed.

Last meeting had 19 folks present to hear Chuck WA6EXV talk about noise figure measurements and some got their preamps tests. Thanks Chuck for the testing. Since your editor didn't make the meeting, no notes were taken on what else happened there.

June Contest - There were a few folks out on the June VHF QSO party as reported later in this edition. Coming up is an adventure by Phil W6HCC traveling to DM38 Fresco Pk 38 deg 30' 32"N by 113 deg 17' 21" on Saturday 29 June. Out and about will be Dave WA6OWD at Keller Pk DM14LE, Chuck, WA6EXV at DM15DP, Frank WB6CWN on Blueridge. Liaison is 449.0 131.8 pl. Next shot will be Sunday July 7 when Phil is at Mt. Evans CO. liaison is TBD at this point.

New project - A couple SBMS members are checking out the DSS 18 inch off set feed reflectors for use on 10 Ghz and 24 Ghz. both WBFM and Narrow band. More on this later as experiments continue

Scheduling

1 /Aug. George K6MBL scanned and copies of SBMS historical images.
3-4 Aug. UHF contest
5 Sept. TBD
3 Oct. Dick K6HIJ RF component design

San Bernardino Microwave Society is a technical amateur radio club affiliated with the ARRL having a membership of over 100 amateurs from Hawaii to the east coast. Dues are \$15 per year which includes a badge and monthly newsletter. Your mail label indicates your call followed by when it is time to renew your dues. Dues can be sent to the treasurer as listed under the banner on the front page. If you have material you would like in the newsletter please send it to Bill WA6QYR at 247 Rebel Road Ridgecrest, CA 93555, WA6QYR@WA6YBN.SOCA.CA.USA, bburns@ridgecrest.ca.us, or phone 619-375-8566. The newsletter is generated about the 15th of the month and put into the mail at least the week prior to the meeting.

Activity for San Diego Microwavers included participation in the June ARRL VHF QSO Party by Kerry Banke, N6IZW from Mt. Soledad (DM12JU), and by Pete Bauer, W6DXJ, and Ed Munn, W6OYJ from Mt. San Miguel (DM12MQ).

N6IZW worked both Frank WB6CWN and Chuck WA6EXV on Corey Peak (DM08PK) on 10 GHz for a distance of 395 miles. N6IZW also worked Phil, W6HCC on Keller Peak (DM14LE) on all bands from 2.3 through 10 GHz. Kerry said he and Phil were able to change bands in only about 5 minutes per band! Kerry also worked Dave, WA6OWD at Heaps Peak and Chip, N6CA Palos Verdes on 3.4 GHz. Kerry is using a tri-band feed for 2.3, 3.4, and 5.8 GHz and very happy with its performance.

W6DXJ and W6OYJ were very pleased with a contact with a DM08 QSO with WB6CWN from their Saturday location on Miguel, a distance of about 408 miles. Pete was using a modified Qualcomm synthesizer-based rig with about 1 watt into a 20 inch dish, and Ed had a home-brew 200 milliwatt rig referenced to a Frequency West "Brick", feeding a 30 inch dish. Other QSOs were made on 10 GHz by the pair with Jack, N6XQ operating WA6TBO/6 on San Clemente Island (DM02), WA6OWD and W6HCC in DM14, N6IZW on Soledad (DM12), Gordon, WB6NOA/MM in DM03, and Robin, WA6CDR, and Miguel, W6YLZ, both located in DM04. So VUCC on 10 GHz was accomplished from Mt. Miguel in only two hours! That's why contests are such fun!

Ed also operated Sunday from Soledad and worked W6HCC Keller Peak and WA6OWD Heaps Peak on 10 GHz, as well as WB6NOA/MM in DM03. It was then time for the "Strange QSO" to occur. Ed heard a SSB signal with his dish pointed North, but couldn't understand the audio. After a while he switched to the opposite sideband and heard Bill Calderwood, K1CT calling "CQ Contest". Now Ed knew that Bill had a Gunplexer Rig for 10 GHz but was not aware that he had upgraded to a 10 GHz SSB rig. He answered the CQ and they exchanged grids for the contest log. Then the light dawned, as Ed realized that the I.F. transceiver was tuned to 432.100 MHz. Ed asked Bill what band he was on, and Bill said "432....what band are you on??" Bill's QTH was only about three miles away and his 432 beam was pointed toward the NW, and directly at Soledad. He then fired up his Gunplexer rig for a REAL 10 GHz QSO with W6OYJ!

In other activity, the San Diegans and planning to do another antenna measuring session soon, and will probably include the capability to measure antennas on other microwave bands besides 10 GHz.

N6IZW will give a talk at the Palomar Amateur Radio Club on July 3rd at 7 PM, at the Carlsbad Safety Center. He will describe the 10 GHz on-frequency repeater that has been in operation for several months from Mt. Miguel. The repeater is currently down from the mountain for refurbishment, with plans to be back in operation in late July.

73 from Ed, W6OYJ

The 50 MHz and Up Group will hold its next meeting on THURSDAY evening, June 20, 1996

at 7 PM At National Semiconductor Corporation, Building 31, (NSC Federal Credit Union), Sunnyvale, CA.

Agenda

- WELCOME to VISITORS from the MTT-S Conference in SF. - ALL
- Short program from NSC Wireless Products Group. - NSC
- Band Activities Recap - ALL
- Summary of June VHF results - Contesters
- Plans for CQ VHF (July) and 10 GHz contest - future participants
- Laser Communications demo - WB9AJZ/N5XSA

Directions:

NSC Bldg 31 is located in Sunnyvale at 955 Kifer Road. From 101 exit SOUTH on Lawrence Expressway, go about 1 mile.

From the intersection of Kifer and Lawrence Expressway, go West on Kifer about 1/2 mile. The building is on the right, and is labeled as NSC Federal Credit Union.

Parking is in the rear. Entry is in the rear at through double doors at the right. (CM97AJ)

QSL Information for WA6TBO, DM-02

I've had numerous inquiries for QSLing our operations in DM-02. Our QSL manager is Lynn, N6QBD (good in the callbook). All QSL's from last year have been completed and will be mailed by Thursday this week (A million thanks Lynn!!!). In addition you can send QSL's to my callbook address (in Vista, CA) or direct to me at: ARS WA6TBO, DM-02, Kent Tiburski 1405 Green Bay St. San Diego, CA 92154

SASE's are requested but we will QSL all who send cards. I appreciate your patience for last year's contest cards. I honestly didn't have the time due to the arrival of our firstborn. Thanks to all of you for all of the fun in the contest!! Special Thanks to my operators who made it happen from DM-02!! Dan, KB5MY; Matt, NF6L; Gary, WB6CYS; Jack, N6XQ 73 de Kent, WA6TBO, DM-02rx San Clemente Island CA

WB6CWN 1996 June Contest Operation from Corey Peak, Nevada

For the last seven years, I have operated the June VHF contest from a perch in the Inyo Mountains in DM16 near Cerro Gordo. When I mentioned that I wanted to try a new location this year to Chuck, WA6EXV, he suggested Corey Peak in western Nevada, a site he had visited last year during some X band grid hunting work with Phil, W6HCC.

During that visit, Chuck and Phil experienced S9+ signals over the 309 mile path.

Chuck reported that the view from the 10,500' summit in DM08 was excellent in most directions so it sounded like a good spot to try this year. I arrived about two hours before sunset on Friday evening after about a two hour dirt road trip to the top. I had to dodge a few rocks and move a few more on the way up, but the dirt road was a very good one compared to the three hour white knuckle drive in 4WD I had to make to get to the previous years' site. The only problem this time was the steep grade. My fully loaded mini-van was at a crawl even in low gear and with the pedal to the floor (but I remembered an old trick my Dad taught us kids when traveling up a steep grate in the family station wagon....just push on the dashboard and seat backs). Once at the top, I took a few initial bearings anticipating set-up the next morning and made dinner. For me, the mountaintop experience includes good food. I usually plan for some nice meals and dinner that first night consisted of homemade tacos, a fresh green salad, fruit and a cup of freshly ground coffee as the sun set over the impressive "wall" of the snow capped Sierras, 50 miles to the west. The temperature was cool, the sky was clear and calm.....I was in heaven (as long as the radios worked tomorrow).

With sunrise came breakfast and equipment set-up. The only problem was a bad circuit breaker inline with the X band radio's battery cable, and that was fixed by bypassing it using a butane soldering iron bought at Home Depot for about \$16. That little thing gets real hot and works very well! I recommend one to anyone in the field. My X band radio runs off a single 12 battery. The solid state PA runs 1W and the TWT puts out about 15W thru a copper water pipe circular waveguide feedline to a chaparral type feed in front of the 4' dish. The RX NF is sub 2dB. The whole thing is tripod mounted and can be set-up in a few minutes. The 2M and 432MHz radios each run 100 watts to NBS type long boom yagis. The two section telescoping antenna mast sits on a tilt over base that's secured under one wheel of the van. The VHF/UHF operating position is the passenger seat and the radios sit on the mini-van's long dashboard. The radios are powered by two 75lb 6V sealed lead-acid batteries wired in series.

I like the quiet trouble free operation of the sealed batteries and they always have enough juice for even a long weekend of VHF mountaintopping. I do have to watch the X band radio's smaller battery however. TWT's are terribly inefficient and the whole rig fully powered draws 17A in transmit (200W DC input to put out 15W of RF at 10 GHz). The first X band QSO in the morning was a test with Phil, W6HCC and Dave, WA6OWD, both about 300 miles south on Heaps Peak in DM14. Signals were immediately found but were not real strong, a disappointment given the stories of bone crushing signals between these two sites a year earlier. I also ran a test, this time to no avail, with Bill, WA6QYR, operating from his home QTH in Ridgecrest DM15. We were all beginning to wonder if the weekend was going to be a long one.

Chuck, WA6EXV arrived on Corey Peak shortly before noon and set-up his high performance X band radio nearby and began working on the paths down to the Heaps Peak crew and to WA6QYR in Ridgecrest. We finally connected with WA6QYR indicating that things were looking up, and shortly after noon, the signals to Heaps Peak began building coincident with some visible thunderstorm clouds growing on the horizon.

After lunch, the signals were S9+ but the CW tones were very watery sounding and were coming from a noticeably wider azimuth angle and with a slight elevation above the horizon indicated as well. We were experiencing a significant path enhancement most likely as a result of signal scattering within or around the thunderstorm cells

roughly, but not exactly, inline with the north-south path we were working (most of the contacts to follow produced signal peaks a few degrees east of the direct path, more in-line with the storm cells).

The louder the signals became the more distorted they were. At one point SSB became almost unusable due to the FM induced distortion so we went to over FM mode and continued the 325 mile X band contact with Heaps Peak with full quieting and pinned S meters on both ends! We all could tell something special was happening. Not wanting to wait for our prearranged contact later in the day, I used the cell phone to call Jack, N6XQ who was the X band operator at the WA6TBO contest station on San Clemente Island in DM02. We both went to our radios and soon spanned the 375 mile path with S7 SSB signals on X band. The band was hot.

Robin, WA6CDR in DM14 was listening to both ends of the QSO with DM02. Robin and I made the next contact and played with the path and antenna angles for awhile. We were both hearing each other over considerably wide azimuth angles and strong enough in some spots to work off of Robin's nearby water tower and even off the back of his dish! Remember this is a 300+ mile path and one that was dead a year ago when he and Chuck worked on it over several hours. I next worked Kerry, N6IZW on Mt. Soledad in DM03 at 395 miles. Kerry has an excellent radio and his signal was a consistent S7 from the San Diego area.

Probably while Kerry and I were talking, Chip, N6CA heard the DM08 signal using his omnidirectional mobile antenna parked up on PV! Chip attempted to make contact via his patented "whistling CW" technique but had to go his 2' dish and a real key to make the 325 mile contact between us (thanks go to Robin for coordinating this contact). Chip too had a good signal up to Corey Peak. The final two contacts of this series produced the best DX of the weekend.

Ed, W6OYJ and Pete, W6DXJ were worked on a 400 mile path to Mt. San Miguel with S5 SSB signals. Pete was running 1W into a 20" dish and Ed had 200mW into a 30" dish.

These signals, like all of the preceding contacts, were clearly enhanced via cloud scatter and may not have been possible without it. Indeed, the following day Ed and I tried to work again, without success, when he moved over to Mt. Soledad.

Another X band contact also worth noting was made later in the day when Rich, KF6CU located on Mt. Vaca in the San Francisco bay area and I worked. This 185 mile path goes right over the 12,000+ foot Sierra "wall" and may be the first time the Sierra Nevada Mountains have been bridged via ham microwaves (Chuck and I also spanned the much lower elevation southern Sierras a few years ago between his home QTH and San Benito Peak). The following morning Chuck made some of his famous DX pancakes. This time Phil was back on Heaps Peak and Dave went over to nearby Keller Peak. We played with the southern path looking for the afternoon cloud scatter enhancement which finally came but was not nearly as strong or impressive as the day before. Thanks to all who went out and made this a special weekend. I look forward to the next one. -

Frank, WB6CWN

ARRL PACIFIC DIVISION UPDATE July, 1996 by Brad Wyatt, K6WR, Director, Pacific Division,

Two Meter and 70 cm bands challenged:- There is a very real threat to the continued use of the 2 meter and 70 cm bands by amateurs by a group of commercial folks promoting the "little LEO" satellites. The following editorial f QST explains the situation --

Get out a pen and paper, or boot up your computer. There's work to be done! Your help is needed to defend two meters and 70 cm. Yes, that's right--the two most popular and most crowded amateur VHF/UHF bands! But don't panic, and don't "go ballistic."

Here's what's happening, and what you can do about it. The United States is preparing for the 1997 ITU World Radiocommunication Conference, WRC-97. In the past, the public has been able to participate in the preparations for such conferences by responding to FCC Notices of Inquiry. In March, the FCC announced a streamlining of its International Bureau's preparatory processes for WRCs. Under the new scheme, the NOIs have been eliminated in favor of increased emphasis on WRC Advisory Committees.

For WRC-97, a series of Informal Working Groups (IWGs) of the Advisory Committee has been created to address specific agenda items. The output of each IWG will go directly to a joint FCC- NTIA-Department of State Steering Committee of the Advisory Committee. There, draft proposals as received from the IWGs will be reviewed and forwarded to the FCC for possible release as preliminary US proposals for public comment.

In announcing the streamlined WRC preparatory process, the FCC tried to reassure those who might be concerned about reduced opportunities for public participation:

"Interested parties should note that input to the Advisory Committee may be sent at any time...." A pre-press version of this editorial, circulated far and wide by e-mail and packet radio, caused so much input to be generated--more than 1,000 comments in less than a week--that the FCC had to modify its procedures to cope with the deluge!

Hold that thought while we shift gears to the substance of the issue. One of the WRC-97 agenda items includes consideration of possible additional frequency allocations for the mobile- satellite service. So-called "little LEOs," low-earth orbit satellites below 1 GHz, already have allocations. Their proponents claim these are inadequate and are trying for more. The needs of little LEOs are being addressed in IWG-2A, chaired by Warren Richards of the Department of State. The ARRL technical relations staff participates in IWG-2A to represent Amateur Radio interests.

At the May 7 IWG-2A meeting, an industry representative presented a list of "candidate bands" for little LEOs. The list included a number of bands that would negatively impact existing services, and does not include others that would appear to be technically more feasible but to which strong objection from incumbents could be expected --- the point being that some political, rather than purely technical, judgment already has influenced the list. We have asked for, but to date have been given no explanation of why some bands were included and not others.

Incredibly, 144-148 and 420-450 MHz were included on the list! This is the first time in memory that another service has been proposed for the two-meter amateur band. We must make sure it is also the last time.

We do not need to explain to ARRL members the extensive use that is made of these bands by amateurs. The two bands provide the backbone of our local public service communications effort. Voice and data, mobile and fixed, even television--the list of present amateur uses is a long one, and of future uses is even longer. Both are already used for satellite services and for moonbounce and extended-range terrestrial operations requiring extremely sensitive receivers and high levels of effective radiated power.

Apparently we did need to explain all this to the little LEO industry representatives, so we did just that--both at the meeting and in a follow-up letter on May 15. We also explained that we had to regard the matter as extremely serious.

No one with the slightest background in radiocommunication could possibly believe that a mobile-satellite service could be introduced into either band without disrupting existing and future amateur operations. Therefore, we said, if we did not receive assurance that they would be taken off the list of candidate bands by the deadline for this issue of QST, we would have no choice but to bring the matter to the attention of the entire membership.

The response we received was unsatisfactory. In effect, we were told the little LEO industry would consider our views but that until their spectrum needs are satisfied, all bands must remain under consideration. So, this is a call to action. We must get across to the industry and government participants in IWG-2A that the 144-148 MHz and 420-450 MHz bands cannot be considered as candidates for mobile-satellite services. We need to drive the point home so forcefully, with so many grassroots responses, that no one is ever tempted to try this again. Which brings us back to that invitation for "interested parties" to send input "at any time." There's no time like the present!

According to the Commission's new procedures, comments by e-mail should be sent to:

wrc97@fcc.gov.

Written comments, with an original plus one copy, should be sent to:

Office of the Secretary, Federal Communications Commission, Washington, DC 20554.

Each comment should include at the top, "Reference No. ISP- 96-005" and "Advisory Committee Informal Working Group 2A." FCC staff assures us that comments will be given prompt consideration, and asks that parties refrain from filing comments in accordance with previous instructions. Do comment. But be civil. Don't abuse people who are simply doing their jobs. We have to get across that casting covetous eyes on amateur bands is counterproductive, and contrary to the public interest.

To accomplish this we need a lot of comments, including yours. But remember that the objective is to educate and persuade, not to intimidate. We don't need to. The facts are on our side. For the latest news on this particular issue, check the ARRL Home page at <http://www.arrl.org/> and click on "Band Threat News." Then write. Right now!--David Sumner, K1ZZ

Note: Continuing research is being done on who the "little LEO" folks really are and how this added information might be useful. Also, preliminary plans are being formulated to get the message to the newly licensed primarily 2 meter hams who may not be aware of what is going on. Any and all suggestions on strategy and tactics will be appreciated.

Bill Introduced to Protect OO and VE Volunteers:- On March 29, 1996, Congressman Bill Baker (R-CA 10th - East Bay Section) introduced "H.R. 3207, a bill to amend the Communications Act of 1934 to facilitate utilization of volunteer resources on behalf of the amateur radio service." This bill provides liability protection for amateurs engaged in statutory defined activities with the Volunteer Examination program and with the Amateur Auxiliary to the FCC. It does so by declaring that, when they are engaged in these activities, they are considered "federal employees" for the purposes of the Federal Tort Claims Act.

Please spread the word, and ask every Pacific Division ham to contact his/her Congressional Representatives urging them to sign on as cosponsors of the bill.

Details on the bill and the cosponsor to date were contained in the June Update. Passage of this bill is critical to the success of helping contain the interference problems in our bands!

New Assistant Director Announced: It is my pleasure to announce the appointment of Randy Foutch, KE6HCI, the Webmaster for the Pacific Division as an Assistant Director. Randy has been instrumental in setting up the Pacific Division Home Page on the World Wide Web. Thanks, Randy!

5725 - 5875 MHz Band is Threatened:

- On May 6, 1996, the FCC released a Notice of Proposed Rule Making, ET Docket 96-102, for a proposed wireless Internet called NII/SUPERNET. This proposed unlicensed service would occupy the 5725 - 5875 MHz segment of the 5650 - 5925 MHz Amateur Band.

Due date for Comments is July 15, 1996. Reply Comments are due Aug. 14, 1996. A special Pacific Division 5725 - 5875 MHz Alert Team is already in place with all the information necessary to work with ARRL and comment on the NPRM to help save the band. If there are any others interested in being part of this team, please contact me at my Internet address, above.

The text version in ASCII format (no footnotes and without special formatting) is available via Internet. There are two parts to this bulletin; each part is about 45K bytes in length. If you wish a WordPerfect or Word for Windows copy which contains special formatting and the footnotes, W6CF can e-mail you a zipped, UUencoded copy.

Please note that the zipped, encoded WordPerfect and Word for Windows files are 105K bytes and 67K bytes in length, respectively. You'll need to decode and unzip the files before printing. Please contact w6cf@arrl.org if you wish this service. We will need all those interested in retaining 5725 - 5875 MHz to be part of the Comment and Reply Comment effort.

Coming Events:-

- Livermore Swap Meet - 1st Sunday of each month at Las Positas College in Livermore, CA, 7 AM to Noon, all year. Talk in 147.045 from west, 145.35 from the east. Contact Noel Anklam, KC6QZK, (510) 447-3857 eves.

- Foothill Flea Market - 2nd Saturday of each month from March to September at Foothill College, Los Altos CA. Talk in on 145.23- PL 100 Hz.

- Pacific Division Convention - Pacificon96 Oct. 18-20, 1996, at the Concord Hilton Hotel in Concord CA. Details can be found on the Pacific Division WWW Home Page at <http://www.pdarrrl.org/> or by calling (510) 932-6125; e-mail Pacificon@designlink.com or WWW:<http://www.mdarc.org>. The Mt.Diablo ARC (MDARC) is the sponsor again this year.

73's, Bill

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